

## A NEW SPECIES OF PHEIDOLE FROM THE SOUTHWEST

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The genus *Pheidole* is abundantly represented in Texas, New Mexico, Arizona, and California, but heretofore no member of the subgenus *Ceratopheidole* Pergande, has been recorded from the United States. A few specimens belonging to this group were received from Mr. C. P. Stroud, who collected them near Carri-zozo, New Mexico, in the vicinity of the lava beds of the Tularosa Basin. All of the ants are workers, but as far as can be ascertained from the published descriptions of the several New World forms in the group, it appears they represent a new species.

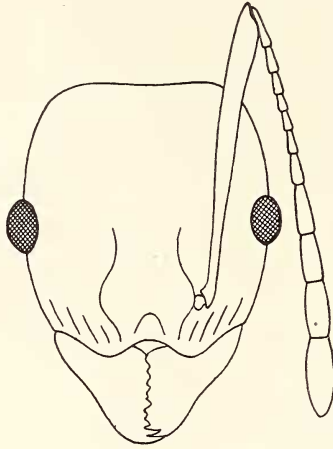
### *Pheidole* (*Ceratopheidole*) *clydei* sp. nov.

Worker. Length 2.8-3 mm.

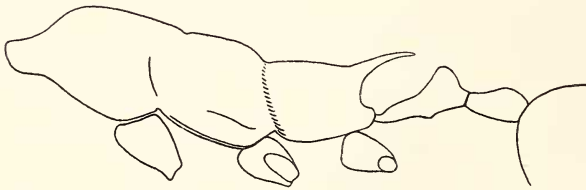
Head, exclusive of the mandibles, slightly longer than broad, sides somewhat convex, and posterior margin straight; occipital angles evenly rounded. Eyes convex and located midway between the anterior and posterior borders of the head. Clypeus convex, produced anteriorly, its margin smooth, but sinuate or broadly emarginate in the middle. Mandibles of the usual shape, with two large, apical teeth, and five to six denticles along the incisor margin. Antennæ long and slender, the scape only slightly curved, and extending approximately  $\frac{1}{3}$  its length beyond the occipital corners of the head. Funiculus with an elongated, 4-segmented club, the segments subequal in length, and each about  $1\frac{1}{2}$  to 2 times as long as wide, or even slightly longer. The remaining funicular segments slender, and about  $1\frac{1}{2}$  times as long as wide. Thorax narrow, prothorax a little more than  $\frac{1}{2}$  as wide as the head; humeral angles rounded. Thorax is profile convex, but low; pro-mesonotal suture present and slightly impressed, meso-epinotal suture distinct. Epinotum long, flat, and nearly horizontal; declivity only  $\frac{1}{2}$  to  $\frac{2}{3}$  as long as the basal face. Spines long and sharp, fully  $\frac{2}{3}$  as long as the epinotal base, and directed slightly upward and outward. Petiole long and narrow, almost 3 times as long as wide; the node in profile low, with a long, concave anterior slope, and much shorter posterior slope. Postpetiole about as long as wide, convex above and flat beneath, subglobose, and twice as wide as the petiole. Abdomen of the usual shape.

Front and gula shining, clypeus indistinctly granular, the remainder of the head sculptured with coarse punctures, giving a subopaque to opaque appear-

ance. Fine, longitudinal rugulæ present on the genæ between the antennal insertions and the eyes, but easily discernible only under a magnification of 60 diameters. Frontal area subopaque, with one or two rugulæ. Dorsum and pleuræ of thorax coarsely punctate; opaque except the extreme anterior margin of the prothorax. Petiole and postpetiole more finely punctured, sub-



A



B

Fig. 1. *Pheidole* (*Ceratopheidole*) *clydei*; a. head, dorsal view, b. profile of thorax.

opaque to somewhat shining on the node. Gaster shagreened, but shining.

Hairs erect, fine, yellowish white, and scattered on all parts of the body except the scapes and funiculi. Pubescence inconspicuous or absent on most portions of the body, but abundant on the antennæ.

Color of head, thorax, petiole, postpetiole, and abdomen black; femora, tibiae, and antennae dark brown; tarsi, articulations of the legs, and mandibles yellow.

Holotype: worker; in the author's collection.

Paratypes: eight workers, deposited in my collection, the United States National Museum, and the Museum of Comparative Zoology.

From *Pheidole* (*C.*) *hectate* Wheeler, *clydei* differs in the following particulars. The clypeus is sinuate medially rather than entire, in the worker caste. The epinotal spines are definitely shorter than the base of the epinotum, and are nearly straight. In shape, the thorax is evenly rounded, and though low, it is not flattened. The pro-mesothoracic suture is definite, the epinotum is distinctly longer on the basal face than on the declivous face, and the humeral angles of the thorax are rounded but not tuberculate. The sculpture consists of coarse granulations, with the punctures on the head somewhat in rows, but the rugulae between which the punctures lie, on the cheeks are so faint they cannot be distinguished without high magnification. Sharply defined rugae are otherwise absent on the head, and are completely absent on the thorax. Thoracic punctures are large, dense, and entirely cover the thorax. The new form differs also from the subspecies of *hectate*, namely, *malevola* and *bruesi*, in the same general characters, especially in the lack of longitudinal rugulae on head and thorax. It approaches *malevola* only in that the front is smooth and shining, while the latter has the whole upper surface of the head glabrous. While all forms of *hectate* are black to blackish red, this seems to be the chief point of similarity between them and *clydei*. The distribution of *hectate* and its subspecies, moreover, is West Indian, (Jamaica), and is therefore widely removed, geographically, from the type locality of *clydei*.

*Pheidole* (*Ceratopheidole*) *granulata* was described by Pergande, and the subgenus was erected on the basis of this species also. The type locality for *granulata* is Tepic, Mexico, and Pergande founded his species on two specimens which he took to be soldiers, although there is some doubt indicated in the original description as to the caste status of these specimens. It is possible that what he had were the intermediates of a polymorphic

species of *Pheidole*. A few forms of *Pheidole* are thus known to be polymorphic, instead of the usual dimorphic condition, such as *Ph. vasiliti*, *arizonica*, *instabilis*, *rhea*, etc., and the Indian *Pheidole smythiesii*, itself a member of the subgenus *Ceratopheidole*, is polymorphic. Since the original description of *granulata* pertains to some other size class, perhaps, rather than the stature of the fully developed soldier, and inasmuch as the true worker caste of this species has never been described, it is probably justified to draw comparisons between Pergande's description and the specimens of the new ant, *clydei*. With these limitations, *clydei* may be said to differ from *granulata* in the following respects. The anterior margin of the clypeus is sinuately and not angularly emarginate in the middle. The eyes are exactly in the middle of the head rather than in front of the middle. The segments of the antennæ, including those of the club, are about  $1\frac{1}{2}$  to 2 times as long as wide, rather than about 4 times, but this difference may be only a reflection of allometric growth differences, and a discrepancy among the castes involved. The prothorax is slightly over  $\frac{1}{2}$  as broad as the head, the declivious face of the epinotum is  $\frac{1}{2}$  or more the length of the basal face, and the spines are at least  $\frac{2}{3}$  as long as the base of the epinotum whereas in *granulata* they are only  $\frac{1}{4}$  of this length. The head is granulate only on the sides, the occiput, the clypeus and between the frontal carinæ; striations or rugulæ are obsolete except for a few near the antennal insertions. The clypeus is without a median carina. The nodes, while granulate, are not densely so, and the abdomen is smooth and shining, whereas in *granulata* it is densely punctate, and the first segment bears elongated foveolæ. The hairs are stiff but are not dense, and are absent from the scape. In color, *clydei* is black almost throughout, while *granulata* is reddish-yellow.

Whether *Ph. (C.) clydei* is an entirely new species may be debatable, and the ant is described here with the full realization that its final status must be determined by the discovery of the soldier caste. A thorough search of several hundred vials of ants collected in the southwest during the spring of 1948, failed to reveal any members of this caste, so it is impossible to give its description or make the desirable comparisons. However, in

view of the fact that *Ceratopheidole* has so far very few forms (two species only from America, and several from Asia), and since the Mexican *granulata*, though geographically adjacent to the locality of the new ant and may yet be taken within the borders of the United States, is obviously distinct from *clydei*, it is considered advisable to set forth a new species based only on the workers. Its locality provides our first record of the group, and furthermore, it may serve as a faint indicator of the northern limits of distribution of *Ceratopheidole* in this hemisphere.

I am indebted to Dr. M. R. Smith for examining the specimens, and for encouragement in proposing a new species. The ant is named for its collector.

#### LITERATURE CONSULTED

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